U.S. Army Research, Development and Engineering Command

Morae 3.3.1 Software for Usability Studies: A Tool for Designing, Observing, and Analyzing Usability Evaluations

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

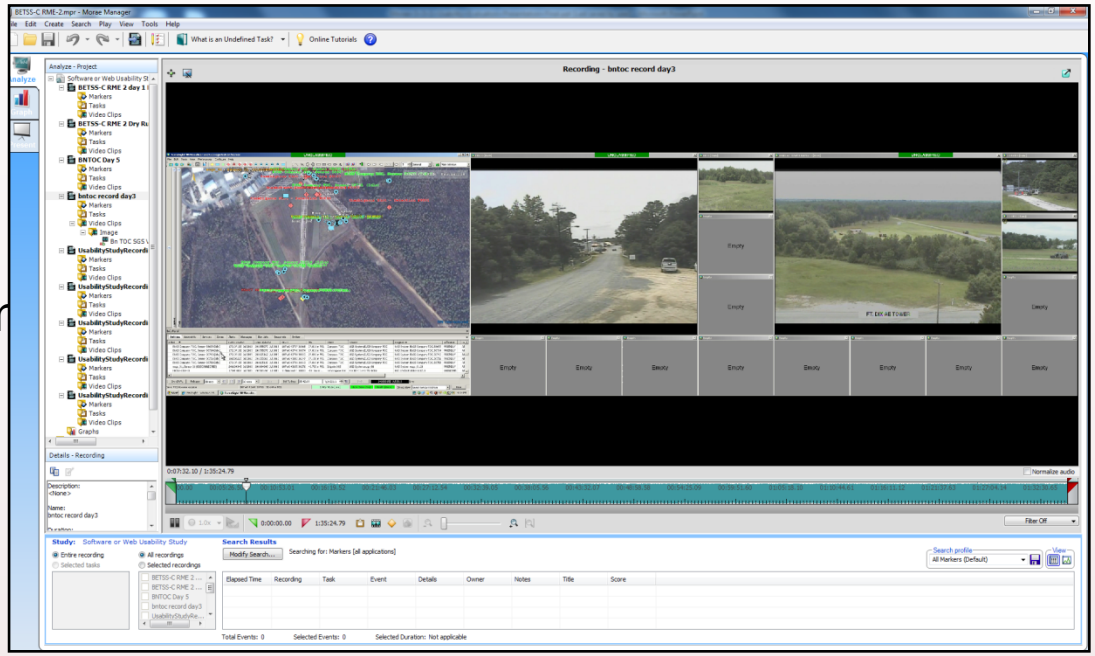
Lamar Garrett

Army Research Laboratory

Human Research & Engineering Directorate

Overview

- Introduction
  - What is Morae
  - Morae Overview
  - Morae Lesson Learned
- Morae Suite Application Dem
  - Morae Recorder
  - Morae Observer
  - Morae Manager



Morae Recorded Image

What is Morae

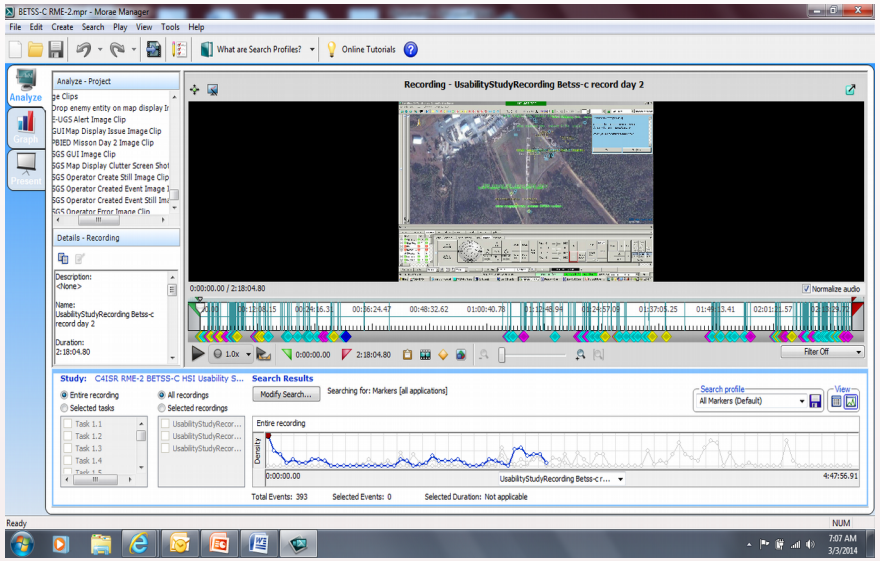
- Morae is a software tool designed to record and annotate video in real-time for later analysis.

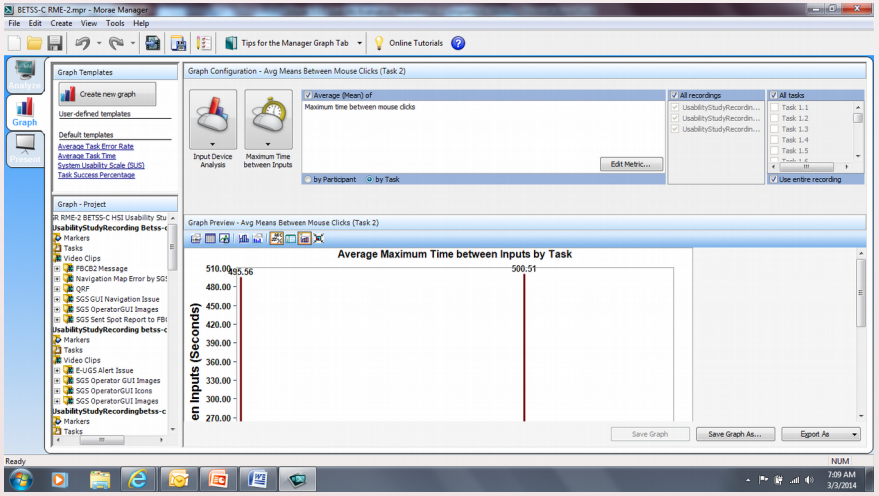
- Morae supports a variety of research including:

  User Interviews

  Field Studies

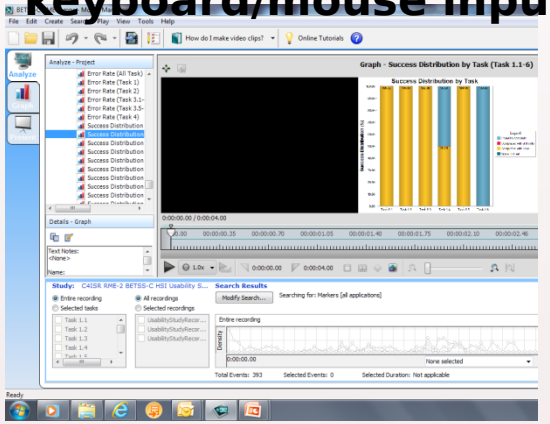
  Usability Studies




BETSS-C RME-2.mpr - Morae Manager
Graph Templates
Graph Configuration - Avg Means Between Mouse Clicks (Task 2)
Average Maximum Time between Inputs by Task
en Inputs (Seconds)

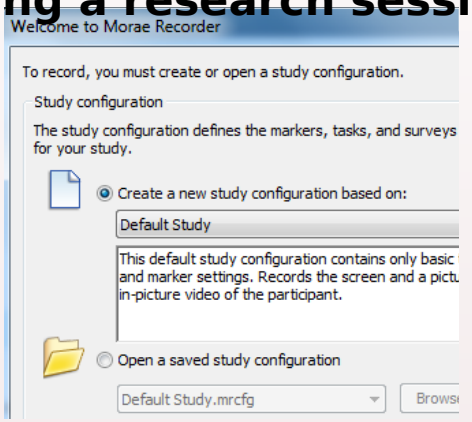
Morae Recorder Overview

The Morae Recorder: captures audio, video, on-screen activity, and keyboard/mouse input during a research session.



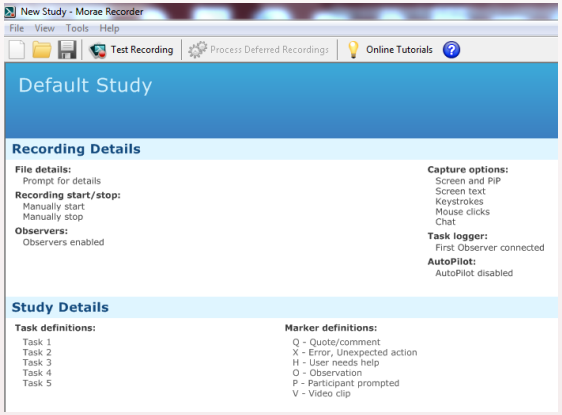
Digital Capture Customizable

Morae – capture data digitally and index into one master timeline.


Welcome to Morae Recorder
To record, you must create or open a study configuration.
Study configuration
The study configuration defines the markers, tasks, and surveys for your study.
Create a new study configuration based on:
Default Study
This default study configuration contains only basic and marker settings. Records the screen and a pictu in-picture video of the participant.
Open a saved study configuration
Default Study.mrcfg

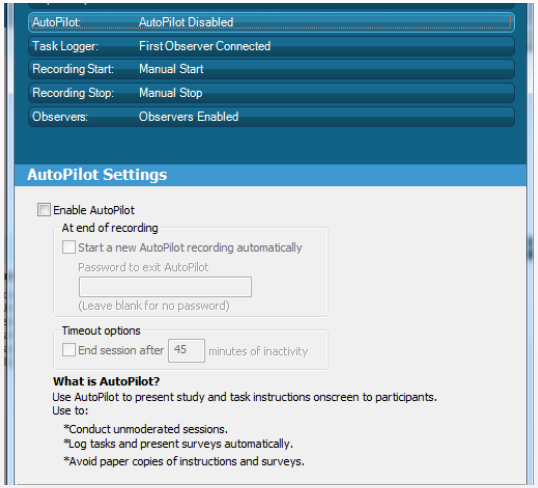
Getting Started

Select a research method from Morae's preset study templates – focus group, software usability test, or mobile device test – Morae



Morae enables you to tailor your own Recorder, Observer, and Manager by using pluggable architecture to build features specific to

Morae Recorder Overview (Cont)


AutoPilot: AutoPilot Disabled
Task Logger: First Observer Connected
Recording Start: Manual Start
Recording Stop: Manual Stop
Observers: Observers Enabled
AutoPilot Settings
Enable AutoPilot
At end of recording
Start a new AutoPilot recording automatically
Password to exit AutoPilot
(Leave blank for no password)
Timeout options
End session after 45 minutes of inactivity
What is AutoPilot?
Use AutoPilot to present study and task instructions onscreen to participants.
Use to:
*Conduct unmoderated sessions.
*Log tasks and present surveys automatically.
*Avoid paper copies of instructions and surveys.

Morae Camera Only Test Assistance

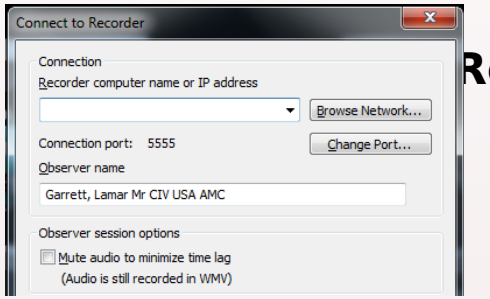
Morae camera-only mode allows you to record participant interactions that don't happen on the PC (i.e. focus groups, in-depth interviews, hardware testing, and paper prototype testing sessions)

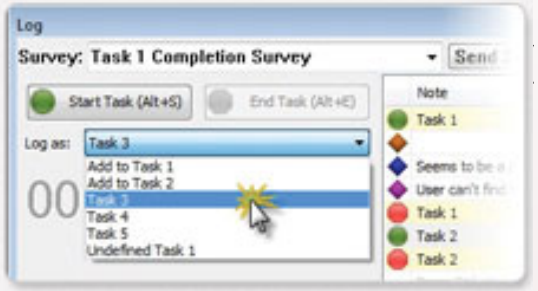
Data Collection

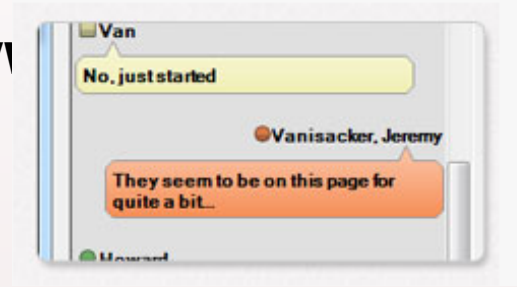
Collect and store data in one central location for viewing, analyzing, graphing, and presenting results. Survey Questionnaires: Use the system usability scale

AutoPilot delivers instructions, tasks, and surveys automatically during test sessions.

Morae Observer: enables researcher's to observe the participant(s) experience, make notes, and flag tasks in real time. Observer connects Recor LAN/







Gain Insight

Connect to a live Recorder session from anywhere via a network. Observers can see and hear anything being recorded – customers' faces, screen or with physical

Log Events

Observe research sessions and flag important moments in real-time by selecting a preset marker (these are best set up prior to the test). The logging a prerecorded video segment.

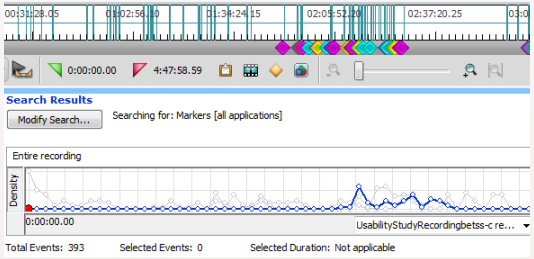
Chat Feature

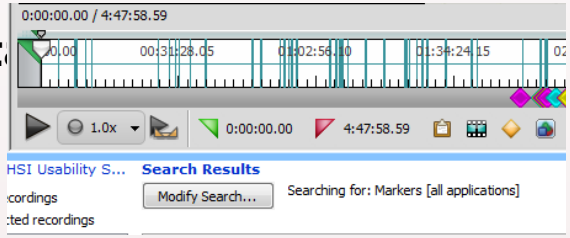
Real-time chat feature to communicate from Observer-to-Observer while testing, or from Observer-to-Recorder for pre- and

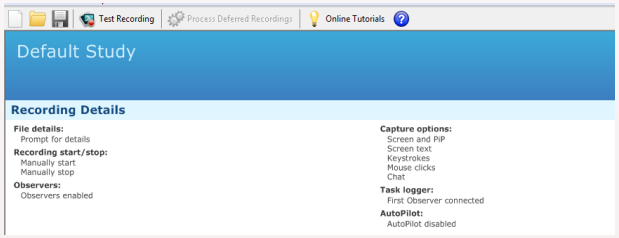
Note: Automatically calculate standard metrics such as time on task or error rate by consistently marking events during each recording.

Morae Manager Overview

Morae Manager: use to view and analyze Morae recordings, automatically calculate metrics, generate graphs, and create highlight st







Review Data Results

Markers and tasks set during a recording session appear along the timeline as color-coded diamonds and triangles.

Automatic Analysis

Create your own measurements and graphs based on mouse movement, clicks, time on task, markers, and satisfaction surveys.

Present

Embed videos, graphs, and title clips from Morae directly onto PowerPoint slides.

Lesson Learned from the C4ISR Risk Mitigation, FT Dix NJ

- To conduct effective usability studies a mission scenario is required
- Observer requires the use of a shared network
- Morae requires additional manpower to monitor participant(s) activities; one human monitor per system being recorded
- Operating system compatibility must be verified prior to start of usability study
- Ensure recordings are saved prior to system shutdown
- DVDs are needed to download files

DEMO Morae 3.3.1

Morae Suite Application Demo

- **Morae suite includes three applications:**

Recorder (Collect data)

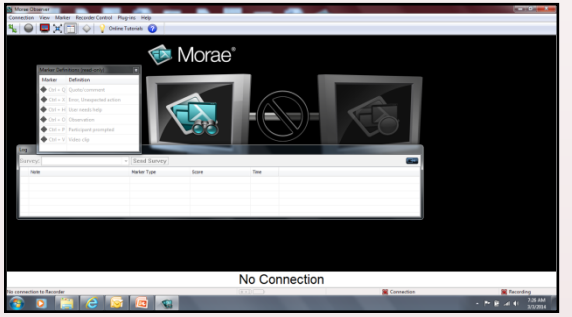
- Create a study using preset templates
- Capture audio, video, user input, and on-screen activity
- Create and administer surveys

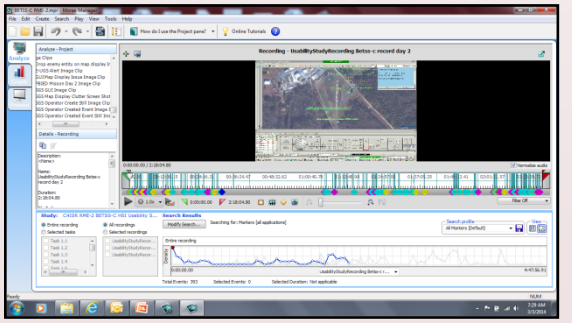
Observer (Log and observe study in real time)

- Remotely view usability study at real time
- Create markers to note and code participant behavior
- Log and make notes as participant completes tasks

Manager (Analyze, visualize, and share results)

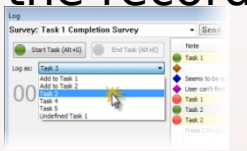
- Create graphs from study data
- View and cross-reference events and tasks



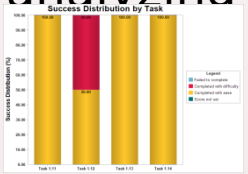


Recorder (Key Terms)

- **Key Terms -** configured before the test starts, then manually added (based on preset parameters) during the test.
  - **Tasks**
    - Tasks are logged manually by the observer during the recording.



  - **Success Score**
    - Allows you to pre-assign score and narrative data points to user performance on tasks. This feature is useful when analyzing data after the recording session has ended.



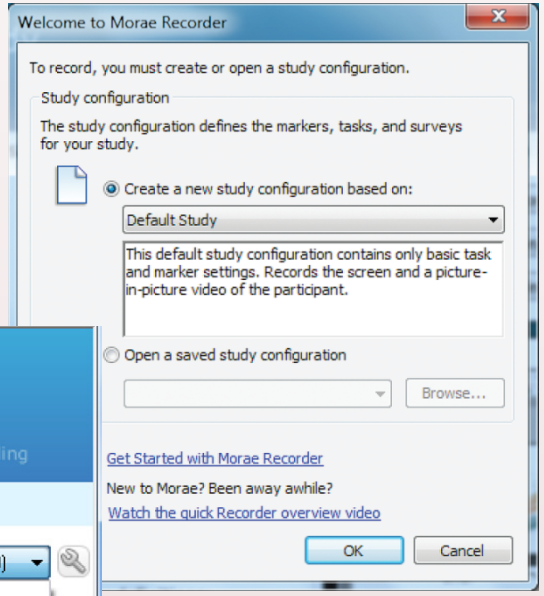
  - **Marker**
    - A note about an important point in a recording.
    - Markers are defined by three features—color, type, and definition

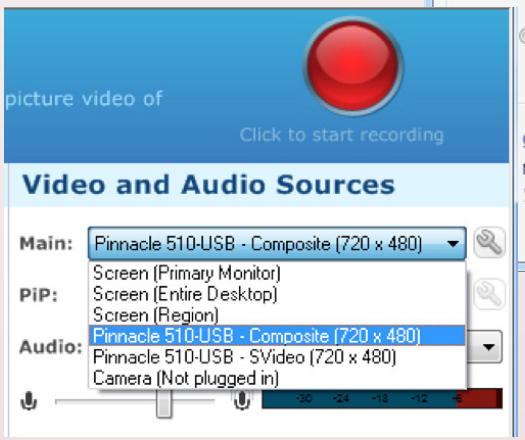
  - **Score**
    - Scores are used for all types of markers; they are similar to success scores used in tasks.

Morae Recorder

- Set up the Equipment
  - Set-Up Video Camera
  - Audio Recorder (i.e. Microphone

- Open Recorder
  - Test Recorder
  - Define Audio and Video Settings
    - Select video source under Main
    - select the source of Picture-in-Picture (PiP)
    - select the Audio (Microphone)

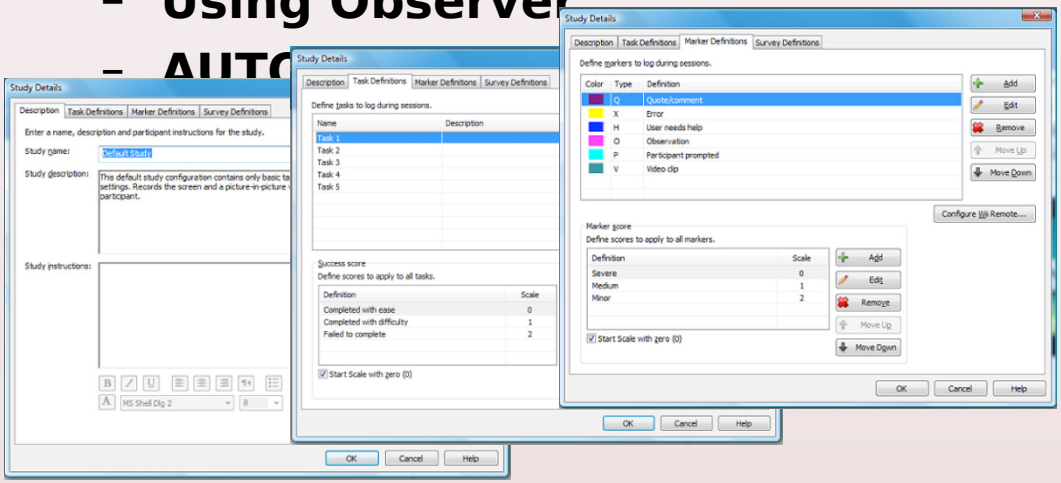

Welcome to Morae Recorder
To record, you must create or open a study configuration.
Study configuration
The study configuration defines the markers, tasks, and surveys for your study.
Create a new study configuration based on:
Default Study
This default study configuration contains only basic task and marker settings. Records the screen and a picture-in-picture video of the participant.
Open a saved study configuration
Browse...
Get Started with Morae Recorder
New to Morae? Been away awhile?
Watch the quick Recorder overview video
OK
Cancel



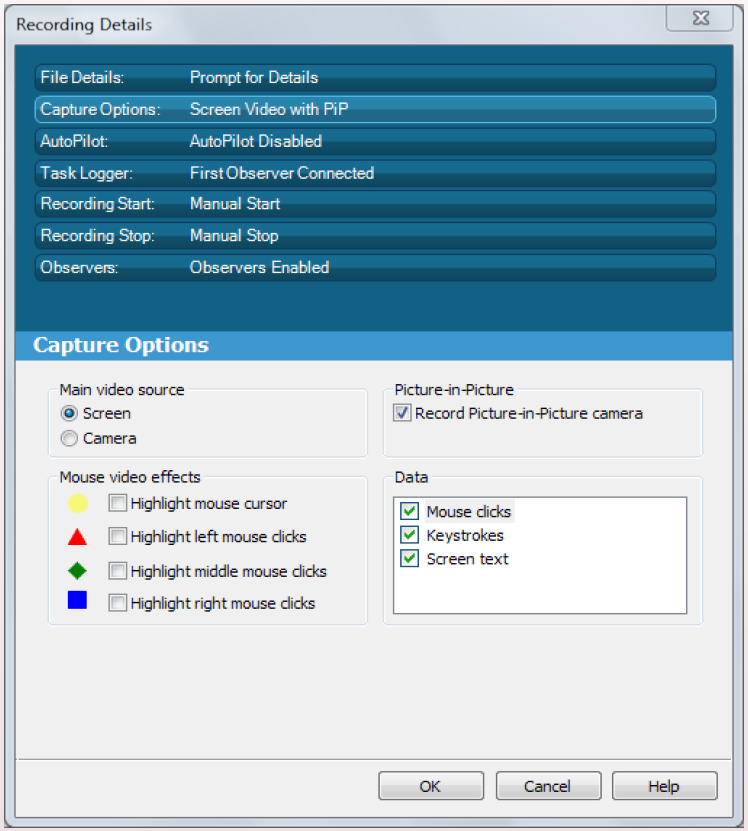
- Record

Morae Recording (Cont'd)

- **Select "RECORDING START and STOP" in the blue menu**
  - Select data to be recorded
  - Modify Study details
  - End Recording Session
- **Additional options**
  - If you want to start your recording manually, keep the "**default settings**"
  - **SPECIFIC DATE/TIME**
  - **Using Observer**
  - **AUTO**



New Study - Morae Recorder
File View Tools Help
Test Recording
Process Deferred Recordings
Online Tutorials
Default Study
This default study configuration contains only basic task and marker settings. Records the screen and a picture-in-picture video of the participant.
Recording Details
Modify Recording Details...
Video and Audio

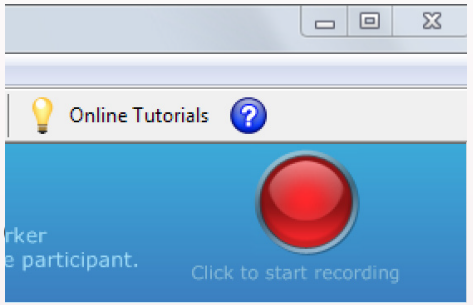


Morae Recorder (Cont'd)

- **Recording a User Study:**
  - Make a Test Recording

  - **Start Recording Session:**
  - Click the large red "**RECORD**" button in the Recorder wind

  - **End Your Recording Session:**
  - Complete Survey



- **Save the recording when Recorder prompts you to do so**

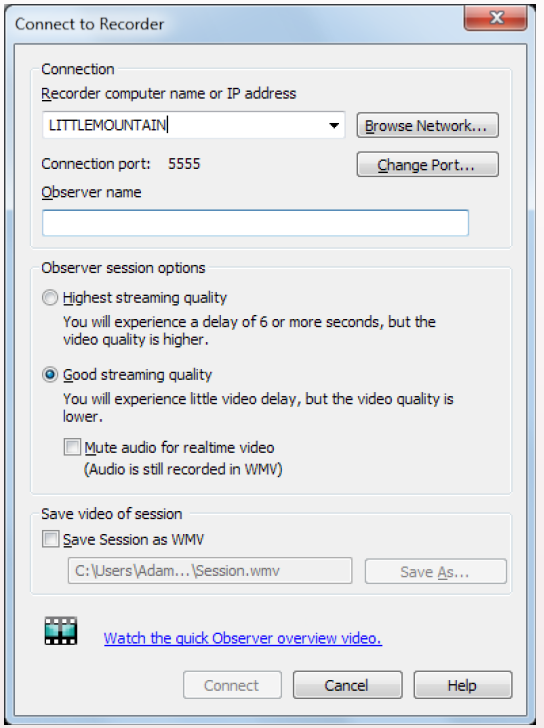
- **Keyboard Shortcuts**

Morae Observer

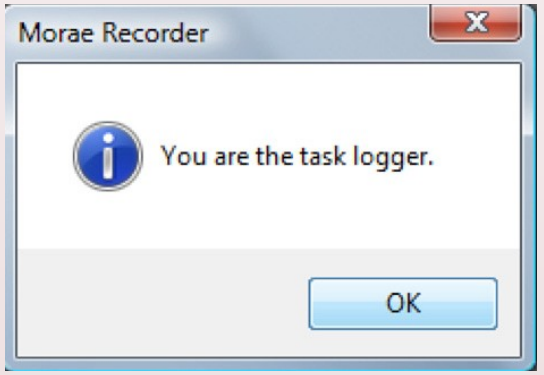
- **Key Terms**
  - **Logging**
    - Making a note of a participant's behavior. In "**Observer**", you can log behavior as a single occurrence (markers) or as a timed action (tasks)
  - **Marker**
    - A note about a single action that you add to the recording. Markers are coded according to the Marker Types you established when setting up the recording in Recorder: (Note: Cannot change Marker types in Observer)
  - **Tasks**
    - A timed action that the participant is asked to complete. To log a task, you will have to start and stop the task recording.
    - You can also add markers to specific tasks
  - **Marker Definitions**
    - The "**Marker Definitions**" window lists your defined Marker Types. You can double-click one of the colored diamonds to create a new Marker with that "**Marker Type**"
  - **Score**
    - Observer allows you to score participant behavior on each marker and task in order to generate data in "**Manager**"

Morae Observer

- **Connect to Recorder**
  - Open Observer. If prompted for an update check, click **NO**.
  - Under **CONNECTION**, type the name of the computer running Recorder
  - For example:
    - Computer in Room 314: **LITTLEMOUNTAIN**
    - Computer in Room 315: **LONGNECKVILLAGE**



- Enter **OBSERVER NAME**
  - The Observer Name will be associated with all markers
  - The default setting of **GOOD** is adequate for most tests



- Under **OBSERVER SESSION OPTIONS**, set your preferred streaming quality
  - The default setting of **GOOD** is adequate for most studies

Morae Manager

- **Manager Application:**
  - View an existing user testing study
  - Create markers to note and code participants' behavior
  - Log, score, and make notes about tasks the participant has completed
  - Create graphs of your data

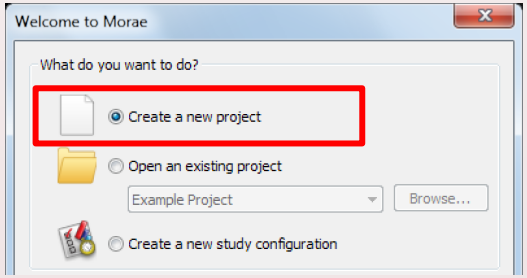
    - Morae Manager allows you to organize your study information and individual interviews
    - You can create text or audio annotation for your data as well as code any data that wasn't marked using Observer
    - Manager performs data analysis, creates graphs and can export study data to other programs (i.e. Excel or Numbers)
    - Manager can also be used to edit research video for presentations or to share with other researchers

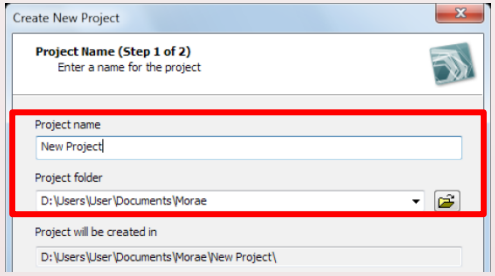
Morae Manager (Cont'd)

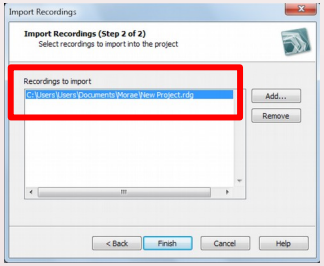
- **Key Terms**
  - **Logging**
    - Making a note of a participant's behavior. In Manager, you can log behavior as a single occurrence (markers) or as a timed action (tasks)
  - **Marker**
    - A note about a single action that you add to the recording. Markers are coded according to the Marker Types you established when setting up the recording in Recorder
  - **Marker Definitions**
    - A note about a single action that you add to the recording
  - **Tasks**
    - A timed action the participant has completed. You can also add markers to specific tasks
  - **Score**
    - Manager allows you to score participant behavior on each marker and task.

Morae Manager (Cont'd)

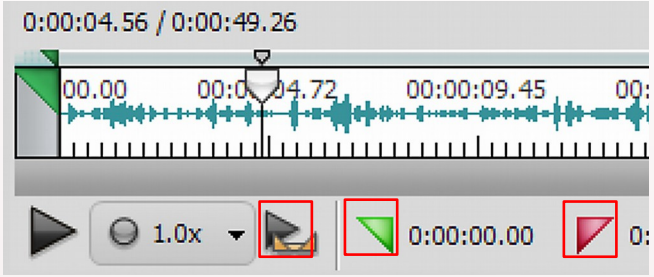
- **Create a New Project**
  - **Step 1.** Open Morae Manager
  - **Step 2.** Choose **CREATE NEW PROJECT** and click **OK**
  - **Step 3.** In the **CREATE NEW PROJECT** window, type a project name, choose a folder, and click **NEXT**
  - **Step 4.** In the **IMPORT RECORDINGS** window, click **ADD**
  - **Step 5.** Find and select your file from the queue, then click **OPEN**
  - **Step 6.** Click **FINISH**

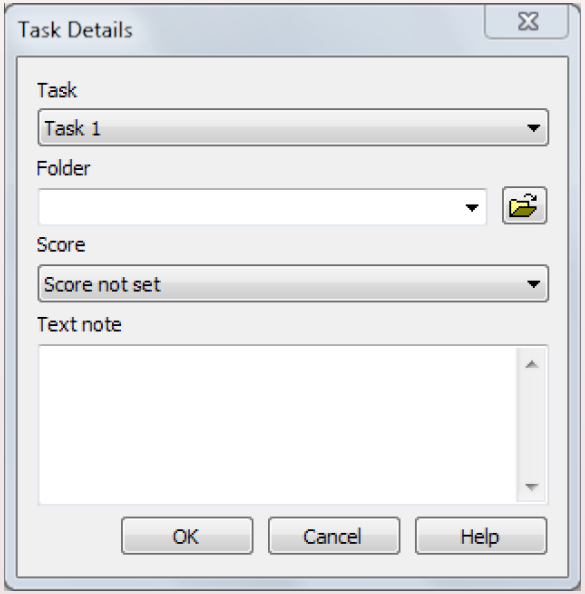






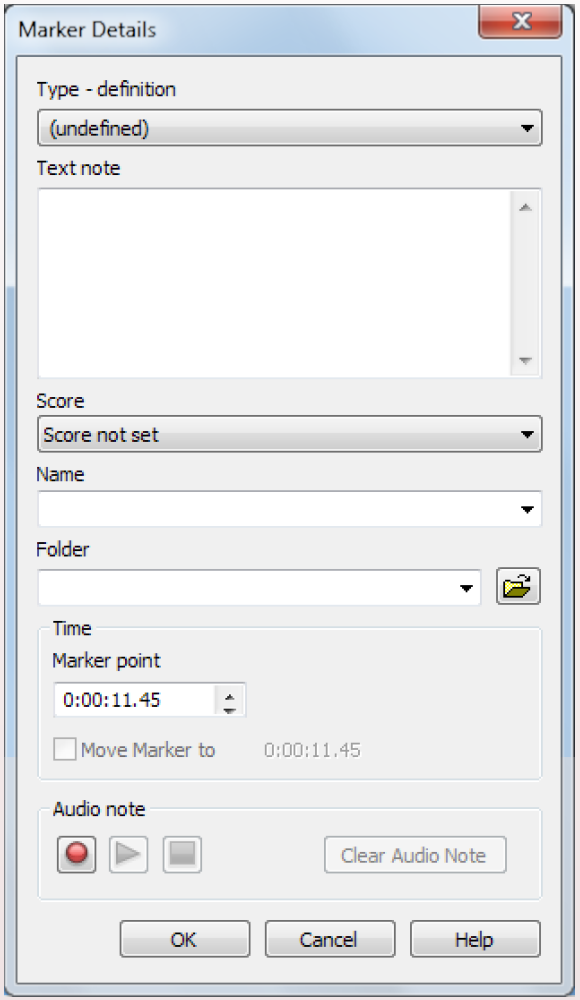
- **Log Tasks**
  - In the **PROJECT PANEL** you can play back a recording and analyze data by grouping your test into different tasks, images, and clips. You can also create graphs that reflect your analysis
    - Decide where you'd like your task to start by left-clicking on the playhead and dragging it to the appropriate time marker
    - Once the playhead is placed where you want it, click on the **SELECTION START** tool
    - Drag the playhead to your desired end point and click the **SELECTION END** tool
    - Preview your task by clicking on the **PLAY SELECTION** tool
    - To log your task click on the **LOG TASK** tool
    - At the **TASK DETAILS** prompt, select a task name, a score, and a note if desired. **Click OK**





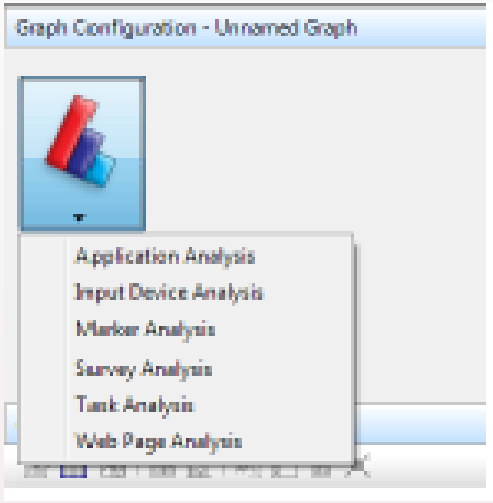
Log Markers

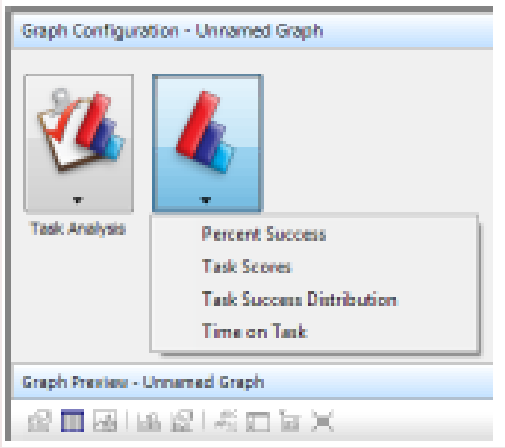
- **Step 1.** Use your mouse to drag the playhead to the point where you'd like to add your marker
- **Step 2.** Click the diamond-shaped **LOG MARKER** icon or press **CTRL + M**
- **Step 3.** In the **MARKER DETAILS** window, choose a type of marker, make a note, score, and/or name for the marker
- **Step 4.** Click **OK**



Create a Graph

- **Step 1.** Select the GRAPH tab from the upper left side of the window
- **Step 2.** Select **CREATE A NEW GRAPH**
- **Step 3.** Click the **SELECT AN ANALYSIS TYPE** icon, and choose a type from the drop-down menu (Note: The most commonly used types are **TASK** and **MARKER** analysis)
- **Step 4.** Once you've chosen your analysis type you'll be prompted to choose a metric. Click on the icon and select the appropriate metric from the drop-down menu (NOTE: A graph of your data should automatically be created)
- **Step 5.** To save your graph, select **FILE** —> **SAVE** —> **GRAPH AS**. Type a name for your graph, and click **SAVE**





Note: If you wish to share your graph, select **FILE** —> **EXPORT** —> **GRAPH AS**. Here you can save your graph as an image by choosing the .bmp extension from the **SAVE AS TYPE** drop-down menu.

Acknowledgements